AMENDMENT TO THE CLAIMS

Please cancel claims 65-68, without prejudice.

Please amend claims 49, 100, 110, 111, 118, 119 and 123 as shown in the following complete list of claims:

1-48. (Canceled).

49. (Currently amended) An isolated polynucleotide consisting of at least 8 consecutive bases to about 100 consecutive bases of SEQ ID NOS:1 or 2, or the complement thereof, wherein said isolated polynucleotide includes at least one single nucleotide polymorphism (SNP) selected from a group consisting of SNPs at positions 230376, ~~214795~~, 207400, 200027, 195404, 160007, 125581, 120853, 96315, 61465, 40431, 38526 and 35983 of SEQ ID NO: 1, wherein said SNPs are found in a general human population with about 25% or less frequency.

50-52. (Canceled).

53. (Previously presented) A kit comprising at least one isolated polynucleotide of Claim 49 and instructions to use the kit.

54. (Previously presented) A kit comprising at least two isolated polynucleotides as in Claim 49.

55. (Previously presented) An isolated polynucleotide consisting of at least 18 consecutive bases to about 100 consecutive bases of SEQ ID NOS:1 or 2, or the complement thereof, wherein said isolated polynucleotide includes at least one SNP selected from a group consisting of SNPs at positions 230376, 214795, 207400, 200027, 195404, 160007, 125581, 120853, 96315, 61465, 40431, 38526 and 35983 of SEQ ID NO:1, wherein said SNPs are found in a general human population with about 25% or less frequency.

56-58. (Canceled).

59. (Previously presented) A kit comprising at least one isolated polynucleotide of Claim 55 and instructions to use the kit.

60. (Previously presented) A kit comprising at least two isolated polynucleotides as in Claim 55.

61. (Previously presented) An isolated polynucleotide consisting of at least 100 consecutive bases to about 235 consecutive kilobases of SEQ ID NOS:1 or 2, or the complement thereof, wherein said isolated polynucleotide includes at least one SNP selected from a group consisting of SNPs at positions 230376, 214795, 207400, 200027, 195404, 160007, 125581, 120853, 96315, 61465, 40431, 38526 and 35983 of SEQ ID NO:1, wherein said SNPs are found in a general human population with about 25% or less frequency.

62. (Previously presented) The isolated polynucleotide of Claim 61 which is cDNA.

63. (Previously presented) The isolated polynucleotide of Claim 61 which is RNA.

64. (Previously presented) The isolated polynucleotide of Claim 61 which is genomic DNA.

65-99. (Canceled).

100. (Currently amended) A kit for determining the likelihood of an individual being affected with hereditary hemochromatosis comprising,

(a) ~~one or more oligonucleotides comprising a sequence that hybridizes under stringent hybridization conditions to a SNP in a target nucleic acid at~~ an oligonucleotide that selectively hybridizes under stringent hybridization conditions to a target sequence wherein the target sequence comprises at least 8 consecutive bases of SEQ ID NO:2, or a complement thereof, including a SNP site selected from a group consisting of SNPs at positions 230376, ~~214795,~~ 207400, 200027, 195404, 160007, 125581, 120853, 96315, 61465, 40431, 38526 and 35983 of SEQ ID NO:1, wherein the oligonucleotide comprises at least 8 bases, and wherein the oligonucleotide selectively hybridizes to the target sequence under conditions in which the oligonucleotide does not hybridize to SEQ ID NO:1 or a complement thereof; and

(b) instructions to use the kit.

101. (Canceled).

102. (Previously presented) The kit of Claim 100 wherein the oligonucleotide is fully complementary to the target nucleic acid.

103. (Previously presented) The kit of Claim 100 further comprising sequencing primers.

104. (Previously presented) The kit of Claim 100 further comprising amplification primers.

105. (Previously presented) The kit Claim 100 further comprising reagents for labeling one or more of the oligonucleotides.

106. (Previously presented) The kit of Claim 100, wherein one or more of the oligonucleotides are labeled.

107. (Previously presented) The kit of Claim 106 that includes one or more reagents to detect the label.

108-109. (Canceled).

110. (Currently amended) The kit of Claim 100, wherein said kit is configured to detect the presence of two or more SNPs, wherein at least one of the SNPs is selected from a group consisting of SNPs at positions 230376, ~~214795,~~ 207400, 200027, 195404, 160007, 125581, 120853, 96315, 61465, 40431, 38526 and 35983 of SEQ ID NO:1.

111. (Currently amended) The kit of Claim 100, wherein said kit is configured to detect the presence of two or more SNPs selected from a group consisting of SNPs at positions 230376, ~~214795,~~ 207400, 200027, 195404, 160007, 125581, 120853, 96315, 61465, 40431, 38526 and 35983 of SEQ ID NO: 1.

112. (Previously presented) An array comprising a plurality of oligonucleotides according to claim 123 immobilized on a substrate.

113. (Canceled).

114. (Previously presented) The array of claim 112, wherein the oligonucleotides are fully complementary to the target nucleic acid.

115. (Previously presented) The array of claim 112, wherein one or more of the oligonucleotides are labeled.

116. (Previously presented) The array of claim 112, wherein the SNP is at position 35983.

117. (Previously presented) The array of claim 112, wherein the SNP is at position 61465.

118. (Currently amended) The array of claim 112, wherein said array is configured to detect the presence of two or more SNPs, wherein at least one of the SNPs is selected from a group consisting of SNPs at positions 230376, ~~214795,~~ 207400, 200027, 195404, 160007, 125581, 120853, 96315, 61465, 40431, 38526 and 35983 of SEQ ID NO: 1.

119. (Currently amended) The array of claim 112, wherein said array is configured to detect the presence of two or more SNPs selected from a group of SNPs at positions 230376, ~~214795,~~ 207400, 200027, 195404, 160007, 125581, 120853, 96315, 61465, 40431, 38526 and 35983 of SEQ ID NO: 1.

120-122. (Canceled).

123. (Currently Amended) An allele-specific oligonucleotide ~~probe comprising a sequence of at least 8 consecutive bases~~ that specifically hybridizes under stringent hybridization conditions to a target sequence in a nucleic acid, wherein said target sequence ~~further~~ comprises at least 8 consecutive bases of ~~SEQ ID NO:1~~ SEQ ID NO:2, or a complement thereof, including a SNP selected from the group of SNPs at positions 230376, ~~214795,~~ 207400, 200027, 195404, 160007, 125581, 120853, 96315, 61465, 40431, 38526 and 35983 of SEQ ID NO:1, wherein the allele-specific oligonucleotide comprises at least 8 bases, and wherein the allele-specific oligonucleotide selectively hybridizes to the target sequence under conditions in which the oligonucleotide does not hybridize to SEQ ID NO:1 or a complement thereof.